WHAT IS CLAIMED IS:

1. An information recording medium comprising:

a recording layer for recording information in the form of a recording mark based on atomic arrangement change and/or electronic state change caused by irradiation of an energy beam, said recording mark being reproduced by irradiating the energy beam on the recording mark; and

first and second metallic layers formed as opposed to an energy beam incident side of said recording layer and having different compositions,

wherein said first metallic layer is disposed closer to said recording layer and contains at least one of Al, Cu, Ag, Au, Pt and Pd as its main component and a sum of contents of these atoms is 60% or more,

wherein said second metallic layer contains at least one of Al, Cu, Ag, Au, Pt and Pd as its main component, and a sum of contents of these atoms in said second metallic layer is larger than that of contents of these atoms in said first metallic layer, and

wherein said first metallic layer also includes at least one element selected from the group consisting of Ti, Cr, Co, Ni, Mg, Si, V, Ca, Fe, Zn, Zr, Nb, Mo, Rh, Sn, Sb, Te, Ta, W, Ir, Pb, B and C, and

further comprising a transparent substrate on said energy beam incident side, and first and second protective layers disposed between said transparent substrate and said first metallic layer, said recording

layer being disposed between said first and second protective layers.

2. An information recording medium as set forth in claim 1, wherein said first metallic layer has an Al content of not smaller than 65% and not larger than 95%.

3. An information recording medium as set forth in claim 1, wherein said second metallic layer has an Al content of 90% or more.

4. An information recording medium as set forth in claim 3, wherein a thickness of said second metallic layer is not smaller than 50 nm and not larger than 250 nm.

5. An information recording medium as set forth in claim 1, wherein Zn and S are contained at least in any of said first and second protective layers.

6. An information recording medium as set forth in claim 5, wherein the thickness of first one of said first and second protective layers closer to said transparent substrate is not smaller than 50 nm and not larger than 100 nm, the thickness of said recording layer is not smaller than 5 nm and not larger than 30 nm, and the thickness of said protective layer is not smaller than 10 nm and not larger than 40 nm.

7. An information recording medium as set forth in claim 6, further comprising a third protective layer disposed between said first protective layer and said recording layer and containing a compound of Al and O.

8. An information recording medium as set forth in claim 7, wherein the thickness of said third protective layer is not smaller than 2 nm and not larger than 20 nm.

9. An information recording medium as set forth in claim 1, wherein a sum of the thicknesses of said first and second metallic layers is not smaller than 130 nm and not larger than 400 nm.

10. An information recording medium as set forth in claim 1, further comprising a non-metallic layer disposed between said first and second metallic layers and having a thickness of 200 nm or less.

11. An information recording medium as set forth in claim 1, wherein grooves and lands are formed in and on said recording layers, and address information marks for recording of the recording marks are provided for both of said grooves and lands.

12. An information recording medium as set forth in claim 11, wherein recording to said grooves and lands is carried out in the form of the recording marks having a

plurality of lengths associated with an information signal.

13. An information recording medium as set forth in claim 1, wherein a first power level of said energy beam is higher than a second power level thereof, a first state of said recording medium caused by said first power level is an amorphous state, and a second state thereof caused by said second power level is a crystalline state.

14. An information recording medium as set forth in claim 1, wherein said recording layer contains at least Ge, Sb and Te as its main components, is added with an addition element M of at least one element selected from the group consisting of Ag, In, Co, Se, Ti, Cr, Ni, Mg, Si, V, Ca, Fe, Zn, Zr, Nb, Mo, Rh, Sn, Ta, W, Ir, Pb, B and C, and has a composition ratio of $(Ge_2Sb_2Te_5)_{(1-x)}+M_x$ (where $0.015<x<0.20$).

15. An information recording medium as set forth in claim 1, wherein said energy beam is determined based on specifications relating to the recording and reproduction of said information recording medium so that a ratio Rr/Rn between a reflected light level Rr from a recording mark of amorphous state which is recorded on said information recording medium by a laser beam and which has a width corresponding to half or less of the width of the laser beam and has a length corresponding to the

laser beam width or more and a reflected light level Rn from a non-recording mark region of a crystalline state should be not larger than 0.5 and not smaller than 2.0.

16. An information recording medium as set forth in claim 15, wherein a highest level Rh of said reflected light level is 15-24%.

17. An information recording medium as set forth in claim 1, wherein the recording of the recording mark in said recording layer is carried out with use of at least first and second power levels of said energy beam, said recording layer is changed to an amorphous state when subjected to an irradiation of said first power level and is changed to a crystalline state when subjected to an irradiation of said second power level.

18. An information recording medium as set forth in claim 1, wherein a third protective layer is provided between said first protective layer and recording layer, and said third protective layer is made of any of an oxide, a nitride and a fluoride.

19. An information recording medium as set forth in claim 18, wherein said third protective layer has a thickness of not smaller than 2 nm and not larger than 20 nm.

20. An information recording medium as set forth in claim 18, wherein a fourth protective layer is provided between said second protective layer and recording layer, and said fourth protective layer is made of any of an oxide, a nitride and a fluoride.

21. An information recording medium as set forth in claim 1, wherein the second metallic layer has a larger thermal conductivity than that of the first metallic layer.

22. An information recording medium as set forth in claim 21, wherein the second metallic layer has a greater strength than that of the first metallic layer.

23. An information recording medium as set forth in claim 1, further comprising an intermediate layer between the first and second metallic layers, said intermediate layer having a smaller thermal conductivity than that of the second metallic layer.

24. An information recording medium as set forth in claim 23, wherein the intermediate layer has a smaller thermal conductivity than that of the first and second metallic layers.

25. An information recording medium as set forth in

claim 23, wherein the intermediate layer is made of a material selected from the group consisting of SiO, SiO_2, In_2O_3, Al_2O_3, GeO, GeO_2, PbO, SnO, SnO_2, Bi_2O_3, TeO_2, WO_2, WO_3, Ta_2O_5, TiO_2, ZrO_2, Cr_2O_3, CrO, Co_2O_3, CoO, CdS, ZnS, CdSe, ZnSe, In_2Se_3, In_2Se_3, Sb_2S_3, Sb_2Se_3, Ga_2S_3, Ga_2Se_3, MgF_2, GeS, GeSe, $GeSe_2$, SnS, SnSe, PbS, PbSe, Bi_2Se_3, TaN, Si_3N_4, AlN and Si, or a mixture composition of at least two of these materials.

26. An information recording medium as set forth in claim 1, wherein said first and second metallic layers directly contact each other.

27. An information recording medium as set forth in claim 1, wherein the first metallic layer includes said at least one element in an amount of 5%-35% of the first metallic layer.

28. An information recording medium as set forth in claim 27, wherein said recording layer is made of material which transforms between amorphous and crystalline states upon irradiation with the energy beam.

29. An information recording medium as set forth in claim 1, wherein said recording layer is made of material which transforms between amorphous and crystalline states upon irradiation with the energy beam.

30. An information recording medium comprising:

a recording layer for recording information in the form of a recording mark based on atomic arrangement change and/or electronic state change caused by irradiation of an energy beam, said recording mark being reproduced by irradiating the energy beam on the recording mark; and

first and second metallic layers formed as opposed to an energy beam incident side of said recording layer and having different compositions,

wherein said first metallic layer is disposed closer to said recording layer and contains at least one of Al, Cu, Ag, Au, Pt and Pd as its main component and a sum of contents of these atoms is 60% or more,

wherein said second metallic layer contains at least one of Al, Cu, Ag, Au, Pt and Pd as its main component, and also contains Mo, and a sum of contents of said at least one of Al, Cu, Ag, Au, Pt and Pd, and Mo, in said second metallic layer is larger than that of contents of these atoms in said first metallic layer, and

wherein said first metallic layer also includes at least one element selected from the group consisting of Ti, Cr, Co, Ni, Mg, Si, V, Ca, Fe, Zn, Zr, Nb, Mo, Rh, Sn, Sb, Te, Ta, W, Ir, Pb, B and C, and

further comprising a transparent substrate on said energy beam incident side, and first and second

protective layers disposed between said transparent substrate and said first metallic layer, said recording layer being disposed between said first and second protective layers.

31. An information recording medium comprising:

a recording layer for recording information in the form of a recording mark based on atomic array change and/or electric state change caused by irradiation of an energy beam, said recording mark being reproduced by irradiating the energy beam on the recording mark; and

first and second metallic layers formed as opposed to an energy beam incident side of said recording layer and having different compositions,

wherein one of said first and second metallic layers, disposed closer to said recording layer, contains Al, Cu, Ag, Au, Pt and Pd as its main components and a sum of contents of these atoms is 60% of more, and

wherein a protective layer is disposed between said recording layer and said first metallic layer.